

What is claimed is:

1. An apparatus for capturing energy from preselected surface waves on a body of water, the waves varying from a maximum to a minimum wavelength and having a maximum amplitude above and below a mean water level present during the passage of said waves, the apparatus comprising an elongated cylinder mounted in vertical and completely submerged orientation relative to said mean water level, the cylinder terminating at a top end structurally spaced from the water surface and disposed, in the absence of surface waves, at a first depth approximately equal to said maximum amplitude, and the cylinder having a bottom end disposed at a second depth where the energy level associated with waves at said maximum wavelength is a small percentage of the energy associated with said maximum wavelength waves at said mean water level, and the cylinder including a barrier to water flow through the cylinder for converting movements of the water relative to said cylinder to captured energy.
2. An apparatus according to claim 1 wherein the said second depth is equal to about 50% of said maximum wavelength waves.
3. An apparatus according to claim 1 wherein said cylinder is hollow has an open top end and is fixedly mounted relative to said mean water level, and said barrier comprises a piston slidably disposed within said cylinder and connected to an energy converter,

4. An apparatus according to claim 1 wherein said cylinder has a closed top end serving as said barrier, and said cylinder is slidably connected to an energy converter.
5. An apparatus according to claim 4 wherein said energy converter is fixedly mounted on a float fixedly secured to a floor of the water body.
6. An apparatus according to claim 5 wherein said float and said energy converter are disposed within said cylinder.
7. An apparatus according to claim 4 wherein said energy converter is fixedly secured to the floor of the water body and said cylinder is rigidly coupled to said energy converter.
8. A method for capturing energy from preselected surface waves on a body of water, the waves varying from a maximum to a minimum wavelength and having a maximum amplitude above and below a mean water level present during the passage of said waves, the method comprising disposing in said body of water an elongated cylinder in vertical and completely submerged orientation relative to said mean water level, the cylinder having a top end structurally disconnected from the surface of the water and disposed at a first depth approximately equal to said maximum amplitude, and the cylinder having a bottom end disposed at a second depth where the energy level associated with waves at said maximum wavelength is a small percentage of the energy associated with said maximum wavelength waves at said mean water level, and disposing

within the cylinder a barrier to water flow through the cylinder in response to cylinder top to bottom water pressure differentials caused by said passing waves for converting movements of water relative to said cylinder to captured energy.

9. A method according to claim 8 wherein the said second depth is equal to about 50% of said maximum wavelength waves.

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